

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US97/18001

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(6) : Please See Extra Sheet.

US CL : 514/215; 540/523

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 514/215; 540/523

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

Please See Extra Sheet.

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y	WO 96/00574 A1 (SMITHKLINE BEECHAM CORPORATION) 11 January 1996, see whole article, especially pages 22-23.	1-45 ----- 1-45
Y	WO 96/26190 A1 (SMITHKLINE BEECHAM CORPORATION) 29 August 1996, see whole article.	1-45
Y	WO 96/06087 A1 (SMITHKLINE BEECHAM CORPORATION) 29 February 1996, see whole article.	1-45
Y	WO 96/00730 A1 (SMITHKLINE BEECHAM CORPORATION) 11 January 1996, see whole article.	1-45

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier document published on or after the international filing date	"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Z" document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

21 NOVEMBER 1997

Date of mailing of the international search report

29 DEC 1997

Name and mailing address of the ISA/US  
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## INTERNATIONAL SEARCH REPORT

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PCT/US97/18001**Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)**

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

**Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)**

This International Searching Authority found multiple inventions in this international application, as follows:

Please See Extra Sheet.

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-45

**Remark on Protest**

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

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International application No.  
PCT/US97/18001

## A. CLASSIFICATION OF SUBJECT MATTER:

IPC (6):

A61K 31/44, 31/47, 31/52, 31/55, 31/415, 31/445, 31/495; C07D 223/16, 233/56, 233/64, 235/18, 235/22, 243/14, 401/12, 401/14, 403/12, 413/12, 417/12, 487/00

## B. FIELDS SEARCHED

Electronic data bases consulted (Name of data base and where practicable terms used):

CAS-structure

APS-image

Dialog-vitronectin, integrin, osteocalcin, osteoblast, osteoporosis

## BOX II. OBSERVATIONS WHERE UNITY OF INVENTION WAS LACKING

This ISA found multiple inventions as follows:

This application contains the following inventions or groups of inventions which are not so linked as to form a single inventive concept under PCT Rule 13.1. In order for all inventions to be searched, the appropriate additional search fees must be paid.

Group I, claims 1-45, drawn to compounds, compositions and method of use.

Group II, claim 46, drawn to product for antagonizing  $\alpha V\beta 5$  receptor.

Group III, claim 47, drawn to product for treating osteoporosis.

Group IV, claim 48, drawn to product for treating angiogenesis.

Group V, claim 49, drawn to product for inhibiting tumor growth.

Group VI, claim 50, drawn to product for treating atherosclerosis.

Group VII, claim 51, drawn to product for treating inflammation.

Group VIII, claims 52-54, drawn to product containing multiple active ingredients for treating tumor.

Group IX, claim 55, drawn to product containing multiple active ingredients for treating bone resorption.

The inventions listed as Groups I-IX do not relate to a single inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: compound per se and multiple ingredient products do not share the same technical feature for patentability since compound per se depends on the elements, bonding arrangement and chemical property for activity while a multiple active ingredient composition depends on the specifics of each component and their quantitative relationship for its activity.